Salton Sea Air Quality Working Group Meeting November 7, 2006

CA Department of Fish and Game Conference Room
3602 Inland Empire Blvd. Suite C-220
Ontario, California

ATTENDEES:

Chuck Keene/DWR
Pamela Vanderbilt/CH2M HILL
Reyes Romero/ICAPCD
Sylvia Oey/ARB
Bruce Wilcox/MBA
Vicki Doyle/IID
Carrie MacDougall/CH2M HILL
Larry Biland/EPA (by phone)
Vic Etyemezian/DRI
Vic Nguyen/DWR
Jerry Boles/DWR
Al Kalin/ICFB
Earl Withycombe/ARB
Jeff Harvey/SDCWA
Thomas Brinkerhoff/ICAPCD
Bob Sculley/Tetra Tech
Doug Barnum/USGS
Monica Swartz/CVWD
John Scott/MWD
Bill Brownlie/Tetra Tech
Steve Smith/SCAQMD
Oliver Page/Stetson Engineers
Patrick Maloney/Imperial Group
Mike Walker/Reclamation
Fred Cagle/SSC
Laura Washburn/SSC

FROM: John Dickey/CH2M HILL

DATE: November 7, 2006

Agenda:

- Welcome and introduction (Chuck)
- Introduction to the Programmatic Environmental Impact Report (PEIR) (Chuck)
- Air Quality Impact Analysis to Support the State's Salton Sea Ecosystem Restoration Study and PEIR, Content, Assumptions, Results (Pamela, John, Carrie)
- Agency Processes for Review and Comment (Air Quality Agencies)
- Final Results from DRI Wind Tunnel Tests at the Salton Sea (Vic Etyemezian)
- Process for Developing Ranking of Attributes and Scoring of Alternatives – Air Quality Attributes; Input from AQWG (Chuck)
- Additional Comments from the Air Quality Agencies
- Schedule Update and Discussion of Potential Phasing of Studies, Construction, and Air Quality R&D at the Salton Sea (Chuck)
- Path Forward, Next Steps

Welcome and Introduction to the Programmatic Environmental Impact Report (PEIR) (Chuck)

Self introductions were followed by review of the agenda.

Chuck described the issuance of the Draft PEIR for public review, reminding the group that the current document only evaluates things in programmatic or general sense. Some air quality issues have been covered in less detail than others, because we had insufficient data (e.g., hazardous air pollutants or toxics). The report focused on the nonattainment pollutants, fugitive dust (PM10), and NOx, as a precursor to ozone. Other pollutants will be addressed in greater detail in project-specific documents for the preferred alternative.

The Resources Agency has produced several thousand copies of executive summary for the Draft PEIR, including a CD of the entire document. When requested, hard copies have been distributed, but due to the size of the document, an electronic copy may be preferable. The document is also available on the website at www.saltonsea.water.ca.gov. Appendices include many more details on alternatives and analyses of the various resource categories.

The analysis of climate and air quality is addressed in Chapter 10, and Appendices E and H-3. Chuck recommended that the Working Group review and comment on at least Chapter 10, Appendices E1-E3, and Appendix H-3. All comments are required in writing, by writing or faxing to Dale Hoffman-Floerke (address and numbers listed in the cover letter inserted in each copy of the Executive Summary), or by email to SaltonSeaComments@water.ca.gov.

Chuck noted that the Draft PEIR does not identify a preferred alternative. Rather, there is a Process Work Group that has been tasked with identifying a process for the Advisory Committee to use in making a recommendation to the Secretary of Resources. The Draft PEIR does identify an environmentally superior alternative (defined as that alternative that has the least amount of negative environmental impacts). The environmentally superior alternative is not necessarily the least costly, most sustainable, constructable, or anything else. Further, the identification of an environmentally superior alternative in the Draft PEIR is not the same process as selection of a preferred alternative.

Air Quality Impact Analysis to Support the State's Salton Sea Ecosystem Restoration Study and PEIR, Content, Assumptions, Results (Pamela, John, Carrie)

See presentation.

During and following the presentation, a number of questions and comments were voiced by members of the group. Those comments and questions are summarized below, followed by preliminary and informal responses, where available. Chuck again requested formal submittal of all comments in writing, and pointed out that all comments submitted in writing would be formally responded to in the Final PEIR.

Pat Maloney, Imperial Group:

- Referring to text on Page 2-21 of the Draft PEIR: "The playa is currently under water and it is not possible to determine if the soils or the salts in the soils would be emissive as the water recedes" - Do we stand by this statement? Response: Yes.
- Referring to text on Page 2-8 of the Draft PEIR, Pat had questions regarding use of inflow waters for irrigation of water efficient vegetation for air quality management. Response from DWR: Drainage return flows would be used. Pat then suggested that if there are no return flows, you cannot irrigate playa.
- How long would you need to operate 10-meter (m) meteorogical towers to have meaningful data? Response: One year when correlating 10 m to 2 m data. Correlations may improve thereafter.
- What about new information? How will it be included in the PEIR? Response: New information will not be included in the Draft PEIR. New information can be provided or referred to in comments, and addressed in the responses to comments in the Final PEIR.

Al Kalin, Imperial County Farm Bureau:

- Did we look at impact of air quality on crop production? Response: Not in detail, but we did review available literature. Found mostly qualitative relationships. This is an area where additional, focused research (by the Cooperative Extension, for example) would help with project-specific documents in the future.
- Was the assumption used that the inflow water requirement for areas treated with water efficient vegetation (WEV) is 1 acre-foot per acre? Response: Yes. DWR had to assume an average value in order to determine the water balance.

John Scott, Metropolitan Water District:

- Will the potential for alternative construction methodologies be presented along with the analysis showing that all alternatives exceed air quality thresholds when analyzed based on conventional construction methods? Response: To a limited extent, yes. The air quality impact analysis for this project assumed that conventional transport methods were used. This assumption was applied to all alternatives in order to evaluate them equally.
- Does Chapter 10 include mitigation? Response: Emissions controls reasonably foreseeable in the future are incorporated into alternatives. Additional mitigation may be identified and required in project-specific studies. For air quality specifically, additional studies are planned that will provide more information specific to the Salton Sea and potential mitigation measures that may prove effective in that setting (meteorological and ambient air monitoring, measurement of the emissivity of exposed playa, effectiveness of possible control measures, etc.)

Chuck Keene, DWR:

- Do we want to focus on some early investigation of control measures?

Bob Sculley, Tetra Tech:

Comments: Threshold wind velocity assumptions are reasonable relative to the literature. Conservatism warranted due to level of quality associated with available wind data.

Mike Walker, US Bureau of Reclamation:

- Reclamation is having trouble finding the estimated unit cost for water efficient vegetation (WEV). Response: the requested information should be in the cost section of Appendix H, the Ecosystem Restoration Study. If not, we can help you find it.
- Comment: Reclamation is using the same air quality mitigation assumptions as the State.

Reyes Romero, ICAPCD:

- Are there site-specific emissions rates in document, and modeling to assess the impacts of these emissions? Isn't it necessary to start the analysis there? Response: Emissions rates for construction and operations and maintenance of each of the alternatives have been estimated and are provided in the Draft PEIR, along with the assumptions, methods, and emissions factors used to develop the estimates. However, dispersion modeling of estimated emissions rates was not conducted due to the programmatic nature of the proposed emissions sources and the lack of specific information on the locations and timing of the emissions. We simply could not do this level of analysis for each alternative at the programmatic level, nor did we feel it was appropriate at this time. This type of analysis will likely be required for project-specific environmental documents.
- When an alternative is selected, what if we find out we'll be exceeding ambient air quality standards 365 days/year? Response: If that is the case, additional mitigation and emissions controls would likely be required, including another look at other approaches to construction and operations and maintenance of the preferred alternative, and the Lead Agency would have to make decisions regarding the anticipated impacts.

Vic Etyemezian, DRI:

- Is it true that emissions currently predicted for the exposed areas in the North part of the Sea are not significant, and that emissions from areas in the South are proportional to the amount of exposed playa? Response: Basically, yes. If most of the exposed playa occurs in the North in the preferred alternative, additional effort should be made to improve the emissions predictions, including improvements to the meteorological data, emissions factors, and emissions threshold values. This will help clarify the level of emissions controls that may be required. If most of the exposed playa occurs in the South in the preferred alternative, playa emissivity would appear to be a reasonable assumption even with the current information, and more work is needed on proving and improving playa stabilization methods.

Agency Processes for Review and Comment (Air Quality Agencies)

Chuck requested a general reaction to the Draft PEIR from the air quality agencies, and opened the discussion to others, as well. He asked for impressions of the approaches we undertook, and whether the information and analysis provided is well supported. He suggested that the agencies might also comment on the process they will use to develop their review comments.

A number of questions and comments were voiced by members of the group. Those comments and questions are summarized below, followed by preliminary and informal responses, where available.

Bill Brownlie, Tetra Tech:

- The Salton Sea Authority does not want to put forward any alternative that causes air quality problems. e.g., they would definitely use conveyors, etc., if need be. Further, they simply do not agree with the analysis of potential playa emissions provided in the Draft PEIR. At a certain point, there will be 400 million tons of salt, and crusts like those in their test ponds will form. You can see from pictures of the ponds that they do not blow. When concentration is over 300 parts per thousand of salt, this is not a playa, but rather a crystallizer pond. (Bill showed the group a crystallized salt sample from the ponds).
- Reyes: Are you telling us that this type of salt crust does not become emissive? Response from Bob Sculley: The formed salts are stable year round. All crusts formed will be sodium chloride, and these salts do not experience phase changes.
- Reyes: Is this what we'll see everywhere? Response from Bill Brownlie: No, only in the areas with concentrations greater than 300 parts per thousand. Concentration of all salts in south basin will provide this type of surface protection.
- Chuck: The State does not dismiss this as a potential mitigation. Everyone hopes that the Salton Sea Authority will be able to prove that this approach will work, but it is our understanding from the air agencies that this must be proven before the method will be widely accepted for all areas on the playa. The Draft PEIR has taken a conservative approach until more information is available. In addition, dust from other ares can blow on and off the top of the salt crust. By comparison, WEV is more effective, because the plant canopy grows above the surface, traps blowing dust, and helps prevent dust from blowing around.

Sylvia Oey, ARB:

- With regard to the air quality management approaches proposed in the Draft PEIR, water efficient vegetation has been proven to have a certain control efficiency in similar applications. The use of salt crust as a control measure needs further testing before SIPs could include something like this. Bill Brownlie indicated that the Salton Sea Authority did not want their alternative thrown out because of the proposed salt crust approach. Chuck responded that air quality alone would not eliminate any alternative.

- ARB will be reviewing the air quality sections of the Draft PEIR now that everything is in one place. One comment they will submit will involve the fact that emissions factors and SIPs are being updated.
- ARB has no set comment or review process for documents like the Draft PEIR.

Pat Maloney, Imperial Group:

- The statement on page 2-21 of the Draft PEIR (cited earlier) ought to also be included in Chapter 10.
- Also, the public needs to understand that only inflow waters would be used for playa-related air quality management. IID may move ahead with conservation measures, and this may reduce drain flows. This is an issue that needs to be addressed.
- Imperial Group disagrees with inflows in the Draft PEIR, but he is not going to discuss that at this meeting.

Al Kalin, Imperial County Farm Bureau:

- Older diesel engines on tugboats/barges might be improved, and would have much lower emissions. Response from Sylvia Oey, ARB: ARB is looking at a strategy for control of emissions from marine diesel engines that will go to their Board and EPA early next year. This would be a very aggressive program for replacement and inspection and maintenance (I&M) for engines used in trucks, trains, construction equipment, and marine vessels. Proposed catalytic technologies would reduce emissions by about 85 percent. But for now, it is correct to use what we currently have, as has been done in the Draft PEIR. None of the new engine standards or emissions factors will be finalized until EPA takes action on them, so the approach using existing factors is correct. The project-specific EIR will likely have better data available. Sylvia added a caution that all reductions mean additional costs.

Final Results from DRI Wind Tunnel Tests at the Salton Sea and Preliminary Results from Playa Analog Study (Vic Etyemezian)

See presentation.

Vic provided an update and the final results on the DRI wind tunnel and PI-SWERL testing conducted in September 2005, and January and March of 2006, at the Salton Sea. One general conclusion is that the Salton Sea, while seasonally emissive and spatially variable, is less emissive than Owens Lake.

The draft playa analog report prepared under contract with DWR is in internal review. A wide range of potentially analogous playas were studied to provide insight into potential future dust emissions from exposed areas at the Salton Sea. DRI evaluated the available scientific literature, geomorphic and hydrologic setting, and in some cases, conducted site visits, sampling, and laboratory analyses. One of the preliminary observations is that all playas are emissive at some time, and areas (percentages and relative locations) that were emissive varied from playa to playa.

Process for Developing Ranking of Air Quality Attributes and Alternatives; Input from AQWG (Chuck, All)

Chuck described that the Process Working Group was tasked with developing a process for the Advisory Committee to use in developing a recommendation of a Preferred Alternative. A draft Attributes List was developed and presented to the Advisory Committee on October 24, 2006, including Air Quality Attributes for evaluation and comparison of the alternatives. Members of the Advisory Committee requested that the Air Quality Working Group review and provide technical input on the list; in particular the relative importance or "ranking" of the various air quality-related attributes in future considerations. Air quality attributes and considerations are mandated by the enabling legislation.

The group noted that the Advisory Committee had emphasized the role of those with specific Air Quality expertise in providing feedback on the list, while acknowledging that all interested parties are welcome at the meetings.

Chuck initiated the discussion with a number of questions and comments:

- Are the attributes accurately described? Are these the important criteria for an air quality impact assessment?
- Are there important attributes missing? What are they?
- How would you rank the attributes relative to their importance in evaluating air quality effects at Salton Sea?
- Any attributes considered must be able to use the information in the Draft and Final PEIR as the basis for analysis.
- Can we use this list/matrix as a tool to allow the Advisory Committee to evaluate the air quality effects of the alternatives, and identify a preferred alternative?
- Is it a tool that accurately captures important criteria as a screening/ranking tool?

Chuck requested that additional criteria or concerns should also be spelled out in written comments, so that they may be addressed in the Final PEIR. The method used to address new criteria and concerns will be determined by information in Final PEIR, so if agencies are able to help with information on additional important attributes, that would be very helpful.

Input from ARB:

- As a relative tool, the list is pretty good. As a more absolute analysis, it is not as satisfactory, but considering the limitations of time and budget, it seems to be a very good start.

- ARB is concerned with use of the 15 mph wind speed as the threshold for dust creation; likely will have some emissions at lower velocities. Response from Carrie: We could go back and re-evaluate the wind speeds and thresholds, given the final DRI data. Better meteorological data for areas closer to the Salton Sea would also be very helpful. Thresholds may be reduced, but they probably won't come down by much. We are likely to get better impact analysis, but we would not expect to see significant changes in the relative results for the alternatives.

- One attribute that Sylvia asked about was the pollutant PM2.5, referring to new standards that have been adopted by EPA, and problems with this pollutant in the South Coast Air Basin. Response from Pamela: Focus in the Draft PEIR was on the nonattainment pollutants, PM10, and NOx as an ozone precursor. As for PM2.5, the Salton Sea Air Basin is currently designated as unclassified/attainment for the federal ambient air quality standards for PM2.5. This may change when designations are issued by EPA in 2009 for the new standards, but for now, the PM problems in the area are primarily related to dust (PM10), not finer particles from sources such as fuel combustion (PM2.5).

- Earl Withycombe, ARB, pointed out that diesel PM10 is all finer particles (PM2.5). A rule of thumb used in some studies is that 15 percent of estimated dust emissions from construction will be PM2.5, and of course there is the question of what percentage of the playa emissions might be PM2.5. He suggested that this type of anecdotal information might be used to compare an estimate of PM2.5 emissions associated with each of the alternatives to available inventories for the region to evaluate significance of impacts.

- Earl also suggested consideration of emissions of greenhouse gases, referring to Assembly Bill 32, recently signed into State law.

Input from Steve Smith, SCAQMD:

- Emissions of other pollutants, such as VOC and other fuel combustion products like CO, are not included in the Draft PEIR analyses. This is a weakness in the document that they will comment on.

- In comparing the relative importance of short term versus long term impacts, the operational (long term) impacts are a more important consideration than those for construction (relatively short term).

- Daily significance thresholds are more important than annual thresholds when considering attainment of standards.

- Another attribute he would rank higher is diesel PM10. He would recommend a closer look at diesel PM10 emissions relative to populated areas.

Input from Al Kalin, ICFB:

- He has noticed sweet corn leaves are burned by salt blowing in from currently exposed areas of playa. He recommended adding an attribute related to agricultural impacts associated with dust and salt emissions. John Dickey asked if we could use PM10 as an indicator of agricultural impacts, commenting that control of PM10 should help control hazardous air pollutants and salt from the playa. Earl Withycombe, ARB, remarked that transport and salt deposition might have greater agricultural impacts than ambient concentrations of PM10.

Input from Monica Swarz, CVWD:

- Monica pointed out another issue that they have been tracking in the Coachella Valley is related to NOx deposition in natural areas, leading to proliferation of nitrogen-limited invasive plant species. This additional biomass has lead to concerns over fire hazard in

areas that previously did not pose fire danger. The group commented that this further strengthens the argument that NOx emissions are a very important attribute for consideration. She thought that the habitat working group might be able to provide additional information on the locations of sensitive areas that should be protected from NOx deposition.

Input from Reyes Romero, ICAPCD:

- Reyes recommended that the highest priority be placed on attributes associated with operational impacts, with medium priority for attributes related to construction, and low priority for other issues, such as odors, microclimate, and hazardous air pollutants.

Input from Earl Withycombe, ARB:

- Earl recommended that highest concern be assigned to diesel PM10, with the next highest assigned to PM10 and PM2.5, thirdly to NOx, and then to odors, HAPs, and issues such as salt and NOx deposition. Pamela asked if he would still rank diesel PM10 as the highest if he considered the rural setting proposed for most of the construction that would occur. He remarked that he would need more information on proposed haul roads and sources of rock and gravel. Vic Nguyen, DWR, pointed out that no quarry sites for rock have yet been confirmed.

Sylvia had some general questions and comments regarding the results provided for the attributes:

- How easily can PM10 issues from unpaved roads be addressed in the future? Is it easier to mitigate these emissions than diesel PM10 from construction, or PM10 from playa? Input to the Advisory Committee on the level of difficulty associated with addressing the air quality issues would be very useful in their considerations. For example, is there anything that cannot be fully mitigated if enough money is spent? Are there regulatory requirements that cannot be met, such as general conformity thresholds? Are there any fatal flaws for any of the alternatives? All things are not equally mitigable. For example, playa emissions are one of the highest issues in terms of potential impacts, but these emissions are also probably some of the most difficult to monitor and mitigate, and uncertainties are greater.
- If air quality requirements and criteria are not met, a project will not go ahead. So, it ultimately may be a question of how much it will cost to comply with the air quality requirements, and if the project can get below thresholds with project-specific mitigation measures.

Input from Vic Etyemezian, DRI:

- Is it a question of the spatial scale of the impacts, that is, impacts that occur on localized scales versus those that occur on a broader scale? Some of the pollutants have more regional impacts, while others are localized.

Chuck Keene tried to summarize the input from the group, and again asked:

- Is this an effective tool?

- Do we have the data needed to fill in the information?
- Will this tool work?

Input from Earl Withycombe, ARB:

- This is a good "relative" tool. It is based on assumptions that have been consistently applied. As an absolute tool for comparisons to regulatory thresholds, such as the comparisons required for General Conformity demonstration, there are more uncertainties.
- Site-specific analyses will require more detailed study, modeling of pollutant dispersion, and more rigorous identification and proof of mitigation measures.

General comments and recommendations from the group:

- Numerical emissions estimates suggest greater quantitative certainty than is actually available; recommend elimination of all numbers and thresholds, and rank the results qualitatively as high, medium, and low (H, M, and L).
- Comparison of the alternatives is ultimately the responsibility of the Advisory Committee. The relative weighting of findings for mandated attributes such as air quality, water quality, and habitat will also be their responsibility, as will be weighting and consideration of findings for non-mandated attributes.
- One suggestion is to try to have the proposed scoring method be consistent with that used by other working groups in format (H, M, L, or 1, 2, 3, etc.).
- We discussed the concept of the "reasonable" mitigation assumed in the Draft PEIR as opposed to "speculative" mitigation that will require technological advancement and more project-specific information before integration and implementation as part of a preferred alternative. Mitigation measures such as ultra-clean construction equipment and conveyor systems for a project of this scale are speculative at this time, and have not been analyzed in detail in the Draft PEIR. However, we should let the Advisory Committee know if we think cleaner equipment is reasonably foreseeable, but the relative timing of its availability is unknown.

Additional Comments from the Air Quality Agencies

We discussed the possibility of one of the agency members to serve as the spokesperson for our group in delivering our input to the Advisory Committee. We asked Sylvia Oey, ARB, to serve in this role, especially because she sits on the Advisory Committee, but she voiced concerns about her availability in the new year, given her other program workload. Chuck said he would serve as our spokesperson for now, with input from the group.

The next Advisory Committee Meeting is scheduled for December 13, 2006.

Schedule Update and Discussion of Potential Phasing of Studies, Construction, and Air Quality Research & Development at the Salton Sea (Chuck)

CH2M HILL will revise the air quality attributes list to incorporate comments and input from the Air Quality Working Group, on ranking of attributes and scoring of alternatives. A revised version will be sent out to the AQWG for their additional review and comments, before the next Advisory Committee Meeting (on December 13, 2006). AQWG requested elimination of numerical emissions estimates and direct comparisons to local thresholds. Recommended use of scoring based on "low", "medium", and "high", based on the level of concern. The group suggested a description of the basis for the scoring, and recommended inclusion of comments on the impacts that might be mitigable in the future as technology evolves, versus those impacts that might remain too difficult to fully resolve.

Chuck indicated that we will only hold another AQWG meeting in the near future if requested by Advisory Committee. We will probably need to hold another meeting to consider any changes to the analysis that might be needed to provide responses to comments on the Draft PEIR.

Path Forward, Next Steps

Comments on the Draft PEIR are due to DWR and DFG by January 16, 2007. In the next few weeks, we will be working on the air quality attribute list, per previous discussion. We will discuss responses to comments and actions to follow the Final PEIR during the next AQWG meeting. A tentative date of March 2007 was discussed for the next AQWG meeting.

3:30 Adjourn